

not answer. Mr. Hight gives no particulars as to the area sown in this manner, although he says that the results are not discouraging.

76. *Bijápur*.—Attempts at artificial regeneration in 1889 were not successful on the whole. 14,000 pits were dug in the jungles and sown with seeds, but the sites of such operations were badly chosen owing to absence of shelter, and the plants died of drought.

77. 892 maunds of seeds were collected.

78. *Kolába-Ratnágiri*.—Nothing important in the way of artificial regeneration was effected in this division. 750 casuarinas were planted out at Sáttád.

79. The Divisional Officer reports that the old casuarina plantations in Chiplún and Málvan, aggregating 103 acres, are not flourishing, and no extension of either was carried out. The Dápoli plantation of 119 acres is reported to be very flourishing.

COMMUNICATIONS AND BUILDINGS.

80. A sum of Rs. 5,494 was expended on works under this head: on "Roads and Bridges", Rs. 572; "Buildings", Rs. 4,685; and Other Works, Rs. 237.

81. In the Northern Division of Kánara Forest cart-tracks were repaired (Rs. 43) and a building for the Divisional Office was built at Halliál (Rs. 350).

82. In the Central Division of Kánara the Hittalkargadda-Mágód, and Kannigeri-Udamaki, roads, as well as cart-tracks, were repaired (Rs. 447); two new watch-houses were built (Rs. 550) and a building for a Náka at Bálegúli was purchased from the Postal Department (Rs. 300).

83. In the Southern Division of Kánara the forest road from Manchikeri to the Kátur-Depôt and other tracks were repaired (Rs. 57). A new watch-house was built (Rs. 300) and Rs. 766 were expended in completing the office-quarters of the Divisional Officer.

84. In Belgaum two new watch-houses were built (Rs. 560) and the rest-house at Nágargali was repaired (Rs. 251).

85. In Dhárwár, the Dévikóp rest-house and certain watch-houses were put in repair (Rs. 308).

86. In Ratnágiri the Bándh-road was repaired (Rs. 25).

CHAPTER IV.

YIELD AND WORKING.

87. The following is a summary of the yield of the forests of the several Divisions for 1888-89 and 1889-90:—

88. *Northern, Central and Southern Divisions of Kánara*.—The large teak exploited during 1889-90 amounted to 247,375 cubic feet against 250,576 cubic feet in 1888-89; the small teak exploited, such as poles and rafters, amounted to 72,640 cubic feet against 80,401 cubic feet. There was a falling off in the quantity brought in to the Halliál-Depôt (which was 95,827 cubic feet against 97,907 cubic feet in 1888-89). The exploitation of timber was restricted for a time in anticipation of an early decision of Government regarding the construction and route of the proposed railway from Gund, which would have greatly cheapened the cost of transport as compared with that of cartage.

89. The out-turn of sleeper-pieces also shows a decrease (16,230 cubic feet in 1889-90, and 46,657 in 1888-89). There is no demand for railway-sleepers now.

90. The large junglewood removed amounted to 322,080 cubic feet against 314,090 cubic feet in the previous year, and the poles, pieces and stakes to

10,146 against 11,805. The quantities extracted in the Central and Southern Divisions of Kánara were larger than those of the previous season, but the yield of the Northern Division was less for the reason given in paragraph 88. For the same reason, the yield of blackwood shows a decrease: it was 8,426 cubic feet in 1889-90 and 18,246 cubic feet in 1888-89. The blackwood poles, pieces, &c., were 531 against 154 cubic feet in 1888-89.

91. The number of bamboos extracted rose from 4,628,641 in 1888-89 to 4,830,535 in 1889-90; and the quantity of myrabollams from 4,356 khandis (worth Rs. 43,658) to 4,651 khandis (worth Rs. 47,966). But the firewood exploited fell from 2,365,466 cubic feet to 1,140,224 cubic feet; and the out-turn of sandalwood from 73 khandis to 57.

92. The increase in the number of bamboos is met with in Halliál of the Northern Division of Kánara, and in Sirsi of the Southern. The bamboo-traffic of the former sub-division will, it is feared, be greatly affected by the two tolls newly opened on the Halliál-Bhágwati, and Halliál-Alnávar, roads. A smaller quantity of firewood was sold for export because a large quantity which remained with the merchants at the close of the previous year lessened the demand.

93. The quantity of charcoal removed measured 5,448 cubic feet against 2,351 cubic feet.

94. *Belgaum*.—The year's yield of the division shows an increase under almost all heads.

95. The large dead teak exploited during 1889-90 amounted to 4,047 cubic feet against none in the previous year. The out-turn of black and junglewood measured 5,447 cubic feet and 14,720 cubic feet respectively, against 351 cubic feet and 2,040 cubic feet during the previous year. Of teak-poles, branchwood and pieces, there were 23,939 cubic feet, against 21,379 cubic feet; and of black-and junglewood poles and pieces, 240 cubic feet and 14,467 cubic feet, respectively, against 63 cubic feet and 12,797 cubic feet during the previous year.

96. The quantity of running-fuel exploited for the Southern Marátha Railway Company was nearly double that of the previous year; it rose from 1,027,398 to 1,876,051 cubic feet, and the firewood removed for other purposes from 672,350 to 696,350 cubic feet.

The result of cuttings on over 2,000 acres of the forests which supply running fuel for the Southern Marátha Railway show that the original estimate of sustained yield was 35 per cent. under the actual yield; the error is partly due to over-caution in estimating the yield, and partly to a reduction since the estimate was made of the minimum diameter of the fuel-pieces from 4 to 3 inches. The opening of the new station of Devrái will enable us to utilize jungles not previously brought within the scope of proposed railway-fuel operations, and will increase the sustained yield by at least 1,000 tons. About 50,000 tons may, therefore, be taken as the sustained fuel-yield of the tract in Belgaum which supplies firewood for the Railway. The demand has now risen—owing to the rise in the price of coal—to 70,000 tons. It is impossible to say how long this demand will continue, but, considering that, before the rise in the price of coal it amounted to 45,000 tons, it is scarcely likely, with increasing traffic, to fall within a measurable period below the sustained yield of the Belgaum tract above referred to. 50,000 tons are equal to 3,400,000 cubic feet, and it appears very doubtful that so large a quantity can be got out without a tramway. I note the remark in paragraph 13 of the Government of India's letter, that we have been working the forests unfairly by exploiting tracts closer to the line than the average lead for the whole area. This was done in the hope that either the Railway Company, or the Forest Department, would very shortly be able to employ trams for the transport of the fuel, carriage by means of carts being reckoned insufficient for the exploitation of the sustained yield from a distance equal to the average lead of the whole tract. This mistake will now be rectified and the forest so worked that the fuel cut in any year shall always be brought about the same average distance—2½ miles.

97. The yield of myrabollams was 6,311 khandis (worth Rs. 56,441) against 6,655 (worth Rs. 57,180) in the previous year. The collection was poor

and the hard-nuts were light. The number of bamboos extracted rose from 564,399 to 1,191,073.

98. *Dhárwār*.—The yield of teak (23,000 cubic feet in 1889-90 against 28,700 cubic feet in 1888-89) and junglewood-rafters (2,000 cubic feet against 2,500 cubic feet) shows a decrease; so does that of *jeráyeti*-wood (10,000 cubic feet against 13,300). But the out-turn of firewood removed by carts rose from 5,130 in 1888-89 to 6,102 in 1889-90, and that removed by animal-loads from 6,960 to 13,512. The quantity removed by head-loads fell from 32,728 to 26,610 cubic feet; and the stacks taken from coupes, from 205,092 cubic feet to 200,160. The yield of sandalwood was 26 khandis against 22 of the previous year. The number of bamboos extracted was 416,283 against 560,341.

99. *Bijápur*.—The yield of timber and firewood was as follows:—

	1888-89.	1889-90.
Jantis. Head-loads = 60,541	Cubic-feet. 51,283 cubic-feet.
Firewood....	... Cart-loads = 54,468	" 50,148 "
Do. Animal-loads = 128,204	" 71,976 "
Do. Head-loads = 115,764	" 128,679 "

Kolába-Ratnágiri.

100. *Kolába*.—The yield of teak-trees amounted to 658,000 cubic feet against 504,525 in 1888-89, and of teak-beams to 35,000 cubic feet against 77,810 cubic feet.

101. The firewood removed amounted to 97,048 cubic feet against 92,000 cubic feet.

102. A rough estimate of yield appears to warrant a higher one than that exploited in previous years.

103. *Ratnágiri*.—The out-turn of teak was 102,708 cubic feet against 98,370. 206 cubic feet of *injáli* timber were also extracted during the year under report; but the firewood removed amounted to only 1,080 cubic feet against 2,200 cubic feet of the previous year.

104. The Saw-Mills at Kannigeri, in Kánara, were closed on the 31st May 1889, and advertised for sale under Government orders. During the year, three engines, the major portion of the machinery, and some minor stores and tools, were sold for Rs. 7,278. Most of the machinery was old.

105. The receipts during the year at the mills up to the date on which they were closed amounted to Rs. 12,509 and the expenditure Rs. 3,645.

CHAPTER V. FINANCIAL RESULTS.

106. The details of the year's transactions are shown in forms Nos. 58 to 62, appended.

107. The receipts and expenditure of the Southern Circle for the years 1888-89 and 1889-90 were—

Year.	Receipts,	Charges,	Surplus or Net Revenue,
	Rs.	Rs.	Rs.
1888-89 ...	12,73,554	6,75,601	5,97,953
1889-90 ...	13,25,676	6,50,343	6,75,333

108. The increase is mainly due to the sale of a larger quantity of fuel to the Southern Marátha Railway Company in Belgaum, and of standing teak in Kolába. The quantity exploited in either case is well within the estimated sustained yield of the tracts treated.

109. The gross revenue of the year exceeds that of 1888-89 by Rs. 52,122 and the net revenue by Rs. 77,380. The charges are less by Rs. 25,258.